



PCT10

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/030,330

DATE: 02/08/2002
TIME: 11:11:46

Input Set : A:\sequence.txt.app
Output Set: N:\CRF3\02082002\J030330.raw

ENTERED

3 <110> APPLICANT: The University of Georgia Research Foundation, Inc.
5 <120> TITLE OF INVENTION: A POLYPEPTIDE HAVING AMIDOLYTIC ACTIVITY FOR A SERPIN
7 <130> FILE REFERENCE: 235.00210201
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/030,330
C--> 10 <141> CURRENT FILING DATE: 2001-10-19
12 <150> PRIOR APPLICATION NUMBER: 60/130,436
13 <151> PRIOR FILING DATE: 1999-04-21
15 <160> NUMBER OF SEQ ID NOS: 6
17 <170> SOFTWARE: PatentIn Ver. 2.1
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 843
21 <212> TYPE: PRT
22 <213> ORGANISM: Porphyromonas gingivalis
24 <400> SEQUENCE: 1
25 Met Lys Lys Ser Phe Leu Leu Ala Ile Val Met Leu Phe Gly Ile Ala
26 1 5 10 15
28 Met Gln Gly His Ser Ala Pro Val Thr Lys Glu Arg Ala Leu Ser Leu
29 20 25 30
31 Ala Arg Leu Ala Leu Arg Gln Val Ser Leu Arg Met Gly Gln Thr Ala
32 35 40 45
34 Val Ser Asp Lys Ile Ser Ile Asp Tyr Val Tyr Arg Gln Gly Asp Ala
35 50 55 60
37 Glu Arg Gly Ile Thr Ser Gln Glu Glu Gly Ser Pro Ala Tyr Phe Tyr
38 65 70 75 80
40 Val Ala Asn Arg Gly Asn Asn Glu Gly Tyr Ala Leu Val Ala Ala Asp
41 85 90 95
43 Asp Arg Ile Pro Thr Ile Leu Ala Tyr Ser Pro Ile Gly Arg Phe Asp
44 100 105 110
46 Met Asp Ser Met Pro Asp Asn Leu Arg Met Trp Leu Gln Ile Tyr Asp
47 115 120 125
49 Gln Glu Ile Gly Leu Ile Leu Ser Gly Lys Ala Gln Leu Asn Glu Glu
50 130 135 140
52 Ile Leu Arg Thr Glu Gly Val Pro Ala Glu Val His Ala Leu Met Asp
53 145 150 155 160
55 Asn Gly His Phe Ala Asn Asp Pro Met Arg Trp Asn Gln Gly Tyr Pro
56 165 170 175
58 Trp Asn Asn Lys Glu Pro Leu Leu Pro Asn Gly Asn His Ala Tyr Thr
59 180 185 190
61 Gly Cys Val Ala Thr Ala Ala Ala Gln Ile Met Arg Tyr His Ser Trp
62 195 200 205
64 Pro Leu Gln Gly Glu Gly Ser Phe Asp Tyr His Ala Gly Ser Leu Val
65 210 215 220
67 Gly Asn Trp Ser Gly Thr Phe Gly Glu Met Tyr Asp Trp Ile Asn Met

RAW SEQUENCE LISTING

DATE: 02/08/2002

PATENT APPLICATION: US/10/030,330

TIME: 11:11:46

Input Set : A:\sequence.txt.app

Output Set: N:\CRF3\02082002\J030330.raw

```

68 225          230          235          240
70 Pro Gly Asn Pro Asp Leu Asp Asn Leu Thr Gln Ser Gln Val Asp Ala
71          245          250          255
73 Tyr Ala Thr Leu Met Arg Asp Val Ser Ala Ser Val Ser Met Ser Phe
74          260          265          270
76 Tyr Glu Asn Gly Ser Gly Thr Tyr Ser Val Tyr Val Val Gly Ala Leu
77          275          280          285
79 Arg Asn Asn Phe Arg Tyr Lys Arg Ser Leu Gln Leu His Val Arg Ala
80          290          295          300
82 Leu Tyr Thr Ser Gln Glu Trp His Asp Met Ile Arg Gly Glu Leu Ala
83 305          310          315          320
85 Ser Gly Arg Pro Val Tyr Tyr Ala Gly Asn Asn Gln Ser Ile Gly His
86          325          330          335
88 Ala Phe Val Cys Asp Gly Tyr Ala Ser Asp Gly Thr Phe His Phe Asn
89          340          345          350
91 Trp Gly Trp Gly Gly Val Ser Asn Gly Phe Tyr Lys Leu Thr Leu Leu
92          355          360          365
94 Ser Pro Thr Ser Leu Gly Ile Gly Gly Glu Gly Ile Gly Phe Thr Ile
95          370          375          380
97 Tyr Gln Glu Ile Ile Thr Gly Ile Glu Pro Ala Lys Thr Pro Ala Glu
98 385          390          395          400
100 Ala Gly Thr Asp Ala Leu Pro Ile Leu Ala Leu Lys Asp Ile Glu Ala
101          405          410          415
103 Glu Tyr Lys Ser Glu Ser Gly Leu Asn Val Gly Tyr Ser Ile Tyr Asn
104          420          425          430
106 Thr Gly Glu Glu Gln Ser Asn Leu Asp Leu Gly Tyr Arg Leu Asn Lys
107          435          440          445
109 Ala Asp Gly Glu Val Ile Glu Val Lys Thr Ser Ser Ile Asn Ile Ser
110          450          455          460
112 Trp Tyr Gly Tyr Gly Glu His Pro Glu Ser Phe Ser Leu Ala Pro Asn
113 465          470          475          480
115 Gln Leu Ser Gln Gly Ile Asn Thr Ile Thr Leu Leu Tyr Arg Arg Thr
116          485          490          495
118 Gly Thr Glu Gln Trp Glu Pro Val Arg His Ala Gln Gly Gly Tyr Val
119          500          505          510
121 Asn Ser Ile Lys Val Asn Thr Thr Asp Pro Asn Asn Val Val Val Thr
122          515          520          525
124 Val Asp Asn Asn Glu Gly Lys Leu Ser Ile Val Pro Asn Ser Phe Val
125          530          535          540
127 Ala Asp Leu Asn Ser Tyr Glu His Ser Thr Ile Thr Val Gln Phe Asn
128 545          550          555          560
130 Ser Asp Ser Pro Asp Glu Ile Arg Thr Pro Val Ala Phe Ala Leu Ser
131          565          570          575
133 Thr Gly Ala Thr Ala Asp Asp Val Ile Ser Leu Gly Trp Val Met Ala
134          580          585          590
136 Glu Val Pro Gly Gly Ser Ser Asn Tyr Pro Val Val Trp Ser Lys Asp
137          595          600          605
139 Val Leu Thr Leu Ser Glu Gly Asp Tyr Thr Leu Trp Tyr Arg Phe Ser
140          610          615          620

```

RAW SEQUENCE LISTING

DATE: 02/08/2002

PATENT APPLICATION: US/10/030,330

TIME: 11:11:46

Input Set : A:\sequence.txt.app

Output Set: N:\CRF3\02082002\J030330.raw

```

142 Ile Asn Asn Gln Lys Asp Glu Trp Lys Lys Ile Gly Ser Val Ser Val
143 625                      630                      635                      640
145 Lys Thr Pro Thr Glu Tyr Thr His Pro Leu Phe Glu Val Gly His Asn
146                      645                      650                      655
148 Gln Thr Ser Thr Tyr Thr Leu Asp Met Ala His Asn Arg Val Leu Pro
149                      660                      665                      670
151 Asp Phe Thr Leu Lys Asn Leu Gly Leu Pro Phe Asn Gly Glu Leu Val
152                      675                      680                      685
154 Val Val Phe Arg Gln Thr Gln Ser Ser Ser Gly Ser Leu Trp Ala Ala
155                      690                      695                      700
157 Gln Glu Thr Val His Ile Lys Gln Gly Glu Thr Phe Val Tyr Lys Pro
158 705                      710                      715                      720
160 Val Val Glu Gly Pro Ile Pro Asp Gly Ser Tyr Arg Ala Thr Leu His
161                      725                      730                      735
163 Ala Phe Val Asn Gly Gln Gln Gln Leu Tyr Leu Lys Gly Lys Arg Asn
164                      740                      745                      750
166 Tyr Thr Val Lys Ile Val Asn Gly Thr Ala Val Glu Ala Ile Glu Ser
167                      755                      760                      765
169 Ser Glu Glu Ile Arg Val Phe Pro Asn Pro Ala Arg Asp Tyr Val Glu
170                      770                      775                      780
172 Ile Ser Ala Pro Cys Ile Pro Gln Glu Thr Ser Ile Ile Leu Phe Asp
173 785                      790                      795                      800
175 Leu Ser Gly Lys Ile Val Met Lys Asn Ser Leu Ser Ala Gly His Gly
176                      805                      810                      815
178 Arg Met Asp Val Ser Arg Leu Pro Asn Gly Ala Tyr Ile Leu Lys Val
179                      820                      825                      830
181 Asp Gly Tyr Thr Thr Lys Ile Asn Ile Val His
182                      835                      840

```

185 <210> SEQ ID NO: 2

186 <211> LENGTH: 2532

187 <212> TYPE: DNA

188 <213> ORGANISM: Porphyromonas gingivalis

190 <400> SEQUENCE: 2

```

191 atgaaaaaaa gttttctttt agccatagta atgctctttg gcattgccat gcagggacat 60
192 tctgctccgg ttacgaaaga gcgagctttg agtctggctc ggctggcttt gcgacaggta 120
193 tccttgcgaa tgggacaaac agcagtatct gacaagattt ccatcgatta cgtttatcgg 180
194 caaggagatg ctgagagggg tatcacatca caagaggaag gctctcctgc atatttttat 240
195 gtagctaatac gtggaaataa tgagggctat gctcttgtag cagcagatga cagaataaccg 300
196 acaatttttag cctattcacc cattggccgt ttcgacatgg acagtatgcc ggacaatctt 360
197 cgcatgtggc tacaaattta cgatcaggaa ataggcctga tactttccgg aaaagctcag 420
198 ctcaatgaag agatattacg taccgagggc gtaccggctg aagtacatgc tctgatggat 480
199 aacggtcatt ttgccaacga tcccatgcga tggaatcaag gttacccatg gaacaataag 540
200 gaaccactgc ttcctaattg caatcatgcc tataccggct gtgttgctac tgctgcagca 600
201 caaatcatgc gctaccatag ctggccgctt caaggtgaag gctctttcga ttatcatgca 660
202 ggttcattag ttggcaactg gtccggcaca tttggtgaaa tgtacgactg gatcaatatg 720
203 cccggaaatc ccgaccttga taatctgact caatctcaag tggatgccta cgccacactg 780
204 atgcgtgatg tgagtgcata tgtttcgatg agtttttatg aaaatggaag tggtagctac 840
205 agcgtttatg tagtaggagc cttgcgaaac aactttcgct acaagcggtc actgcagcta 900
206 catgtacgcg ccttatatac ctacacaggag tggcacgata tgatccgcgg ggaacttgcc 960

```

RAW SEQUENCE LISTING

DATE: 02/08/2002

PATENT APPLICATION: US/10/030,330

TIME: 11:11:46

Input Set : A:\sequence.txt.app

Output Set: N:\CRF3\02082002\J030330.raw

```

207 tccggaaggc cggctctatta tgcaggggaat aaccagagca taggacatgc tttcgtttgc 1020
208 gatgggttatg cttcgggatgg tactttccat ttcaactggg gttggggagg tgttttccaac 1080
209 ggctttctaca aactaacact cctctcgccg acttcgttgg gtatcggagg tgagggaata 1140
210 ggttttacca tttatcaaga gatcatcacc ggtatcgaac cggttaagac tcccgtgaa 1200
211 gccggtacag atgccttgcc gatcttggca ctgaaagaca tagaagccga gtataaaaagt 1260
212 gaatccggat tgaacgtagg gtattcgata tataatacag gtgaagagca atcaaattctt 1320
213 gacctcggat acagattgaa caaggctgac ggagaagtca tagaggtgaa aacttcatct 1380
214 atcaatatct cttggtacgg atacggagag catcccgaga gtttctcatt ggcacctaat 1440
215 cagttgtcac aaggaatcaa caccatcacc ctactttatc gtcgcacagg caccgaacag 1500
216 tgggagccgg tacggcatgc acagggagga tatgtcaata gcattaaagt aaatacgaca 1560
217 gacccgaaca atgtcgtagt cacggtagat aataacgaag gcaagctcag tatcgtcccc 1620
218 aacagctttg tcgcagatct gaattcttat gaacatagta cgattacagt acagttcaat 1680
219 agcgacagcc ctgatgagat ccgtacaccc gtagcctttg ctctatctac aggagctact 1740
220 gcggacgatg taatatcttt gggctgggta atggctgaag ttccgggcgg tagcagcaac 1800
221 tatccggtgg tttggtctaa agacgttctc actctctcgg aaggcgacta tacattgtgg 1860
222 tatagatattt ccatcaacaa ccaaaaggat gaatggaaaa agatcggaag cgtgtcagta 1920
223 aaaacaccga cagagtatac gcacccctta ttcgaagtgg gccataatca aacttctacc 1980
224 tatacgtcgg atatggcaca caacagagta ttgcccgact ttacactcaa aaatctcgga 2040
225 ttgcctttca atggtgagtt ggttgttgtt ttccgccaaa cacaatctc atcgggggtct 2100
226 ttatgggcag ctcaagaaac agtacatatc aagcaaggag aaactttcgt atataaacct 2160
227 gttgtcgaag gccctatacc tgatggatcc tatcgtgcga ccctccatgc attcgtaaac 2220
228 ggacaacaac agttgtacct caaggggaaa aggaactaca cggtgaagat cgtcaatggt 2280
229 acagcggtag aagcaataga atcgtcagaa gagatcagag tattccctaa tccggcacgc 2340
230 gattatgtgg aaatatcggc accttgcatt cccaagaaa catctatcat tcttttcgat 2400
231 ctgtcaggca agattgtcat gaagaatagt ttatcagcgg ggcatggcag aatggatgtc 2460
232 agccgacttc ctaatggggc ctacatcctt aaggtggatg gatatacgac gaaaataaat 2520
233 atagtgcact aa 2532

```

236 <210> SEQ ID NO: 3

237 <211> LENGTH: 418

238 <212> TYPE: PRT

239 <213> ORGANISM: Homo sapiens

241 <400> SEQUENCE: 3

```

242 Met Pro Ser Ser Val Ser Trp Gly Ile Leu Leu Leu Ala Gly Leu Cys
243   1                      5                      10                      15
245 Cys Leu Val Pro Val Ser Leu Ala Glu Asp Pro Gln Gly Asp Ala Ala
246   20                      25                      30
248 Gln Lys Thr Asp Thr Ser His His Asp Gln Asp His Pro Thr Phe Asn
249   35                      40                      45
251 Lys Ile Thr Pro Asn Leu Ala Glu Phe Ala Phe Ser Leu Tyr Arg Gln
252   50                      55                      60
254 Leu Ala His Gln Ser Asn Ser Thr Asn Ile Phe Ser Pro Val Ser
255   65                      70                      75                      80
257 Ile Ala Thr Ala Phe Ala Met Leu Ser Leu Gly Thr Lys Ala Asp Thr
258   85                      90                      95
260 His Asp Glu Ile Leu Glu Gly Leu Asn Phe Asn Leu Thr Glu Ile Pro
261   100                     105                     110
263 Glu Ala Gln Ile His Glu Gly Phe Gln Glu Leu Leu Arg Thr Leu Asn
264   115                     120                     125
266 Gln Pro Asp Ser Gln Leu Gln Leu Thr Thr Gly Asn Gly Leu Phe Leu

```

RAW SEQUENCE LISTING

DATE: 02/08/2002

PATENT APPLICATION: US/10/030,330

TIME: 11:11:46

Input Set : A:\sequence.txt.app

Output Set: N:\CRF3\02082002\J030330.raw

```

267      130      135      140
269 Ser Glu Gly Leu Lys Leu Val Asp Lys Phe Leu Glu Asp Val Lys Lys
270 145      150      155      160
272 Leu Tyr His Ser Glu Ala Phe Thr Val Asn Phe Gly Asp Thr Glu Glu
273      165      170      175
275 Ala Lys Lys Gln Ile Asn Asp Tyr Val Glu Lys Gly Thr Gln Gly Lys
276      180      185      190
278 Ile Val Asp Leu Val Lys Glu Leu Asp Arg Asp Thr Val Phe Ala Leu
279      195      200      205
281 Val Asn Tyr Ile Phe Phe Lys Gly Lys Trp Glu Arg Pro Phe Glu Val
282      210      215      220
284 Lys Asp Thr Glu Glu Glu Asp Phe His Val Asp Gln Val Thr Thr Val
285 225      230      235      240
287 Lys Val Pro Met Met Lys Arg Leu Gly Met Phe Asn Ile Gln His Cys
288      245      250      255
290 Lys Lys Leu Ser Ser Trp Val Leu Leu Met Lys Tyr Leu Gly Asn Ala
291      260      265      270
293 Thr Ala Ile Phe Phe Leu Pro Asp Glu Gly Lys Leu Gln His Leu Glu
294      275      280      285
296 Asn Glu Leu Thr His Asp Ile Ile Thr Lys Phe Leu Glu Asn Glu Asp
297      290      295      300
299 Arg Arg Ser Ala Ser Leu His Leu Pro Lys Leu Ser Ile Thr Gly Thr
300 305      310      315      320
302 Tyr Asp Leu Lys Ser Val Leu Gly Gln Leu Gly Ile Thr Lys Val Phe
303      325      330      335
305 Ser Asn Gly Ala Asp Leu Ser Gly Val Thr Glu Glu Ala Pro Leu Lys
306      340      345      350
308 Leu Ser Lys Ala Val His Lys Ala Val Leu Thr Ile Asp Glu Lys Gly
309      355      360      365
311 Thr Glu Ala Ala Gly Ala Met Phe Leu Glu Ala Ile Pro Met Ser Ile
312      370      375      380
314 Pro Pro Glu Val Lys Phe Asn Lys Pro Phe Val Phe Leu Met Ile Glu
315 385      390      395      400
317 Gln Asn Thr Lys Ser Pro Leu Phe Met Gly Lys Val Val Asn Pro Thr
318      405      410      415
320 Gln Lys
324 <210> SEQ ID NO: 4
325 <211> LENGTH: 15
326 <212> TYPE: PRT
327 <213> ORGANISM: Homo sapiens
329 <400> SEQUENCE: 4
330 Gly Ala Met Phe Leu Glu Ala Ile Pro Met Ser Ile Pro Pro Glu
331 1 5 10 15
334 <210> SEQ ID NO: 5
335 <211> LENGTH: 840
336 <212> TYPE: PRT
337 <213> ORGANISM: Porphyromonas gingivalis
339 <400> SEQUENCE: 5
340 Met Lys Arg Ile Phe Tyr Thr Leu Gly Leu Leu Leu Leu Cys Leu Pro

```

VERIFICATION SUMMARY

DATE: 02/08/2002

PATENT APPLICATION: US/10/030,330

TIME: 11:11:47

Input Set : A:\sequence.txt.app

Output Set: N:\CRF3\02082002\J030330.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date